

Mineral Industry Surveys

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PRECIOUS METALS IN APRIL 1999

U.S. mines produced 26,300 kilograms (kg) of gold and 184,000 kg of silver in April 1999. Production of silver was down by 29% in Nevada.

Table 8, at the end of this report, lists the top 30 gold-producing mines in the United States in 1998.

Gold

Domestic.—President Clinton signed legislation mandating that Congress reinstate the Crown Jewel gold project in Washington State. This legislation reverses the actions of the Departments of the Interior and Agriculture taken late last March. It had been found that Battle Mountain Gold's Crown Jewel operating plan would use more acreage for cyanide leaching and crushed rock disposal than allowed under the 1872 mining law. The deposit contains approximately 50,000 kg (1.6 million troy ounces) of gold and is forecasted to have an estimated annual production of about 6,000 kg (185,000 ounces) of gold. Construction of the mine could begin early in 2000 (Platt's Metals Week, 1999a).

Placer Dome Inc. completed its merger with Getchell Gold Corp., which delivers full ownership to Placer Dome of the Getchell and Turquoise Ridge gold mines in Nevada. Placer Dome plans to spend \$230 million to complete the development of the Turquoise Ridge Mine and double the mill capacity to 6,000 metric tons of ore per day. The Turquoise project is expected to produce about 25,000 kg (800,000 ounces) of gold per year (Platt's Metals Week, 1999b).

International.—The South African Chamber of Mines reported that total gold output for the first quarter was 110,000 kg (3.5 million ounces) down 6.6% for the same period in 1998. The Chamber also revised its gold mining data for 1998 down 5% to 464,000 kg (14.9 million ounces) of gold (Platt's Metals

Week, 1999c).

Update.—The World Gold Council reports that gold price declines, stimulated by news of planned International Monetary Fund gold sales to finance debt relief for poor countries, and by news of a planned United Kingdom gold auction, have canceled most of the potential benefits of the gold sales. The 36 heavily indebted poor countries have recently lost money from their gold mining operations, which produced more than 150,000 kg (4.8 million ounces) of gold in 1998, and could produce 200,000 kg (6.4 million ounces) of gold in 2000 (American Metal Market, 1999).

Silver

Canada's Intrepid Minerals Corp. reported that its drilling program at the Zapote silver property in El Salvador returned evidence of wide zones of silver mineralization. The program, designed to test a wide stockwork structure at the Cerro Colorado III prospect, yielded core samples ranging from 305 grams/ton to 449 grams/ton silver. The structure was tested over a 250-meter strike length, and Intrepid's geologist interpreted the results as indicating that the main stockwork zone is a breccia pipe, the apex of which is exposed at Cerro Colorado III. The mineralized breccia is inclosed by volcanic and sedimentary rocks, intruded by a granodiorite and dacite porphyry. Mineralization within the breccia consists of pyrite, acanthite, galena, and sphalerite, with minor chalcopryrite and chalcocite, containing silver, lead, and gold (Mining Journal, 1999).

The London Metal Exchange (LME) will begin offering silver futures and silver options. These new offerings were prompted by the changing attitude toward silver. Traditionally, silver has been regarded as a precious metal, but is increasingly being viewed as an industrial metal with many uses. The LME expects to attract

industrial users of silver as well as those who trade silver as an investment. One important aspect of the new offering is the LME intention to make granules deliverable, a growing sector of the market, especially in Europe. Granules are expected to be made available in October 1999 (Silver News, 1999).

Platinum-Group Metals

The palladium market fell sharply from its highest point in almost a year after widespread rumors that exports from Russia were expected to resume shortly. The market, which reached \$384/ounce on April 20, traded at \$353/ounce on April 27. The recent announcement from German catalyst manufacturer Degussa-Hüls Corp. that its plans to replace palladium-based catalysts with platinum-based catalysts were progressing well has also helped push palladium prices lower.

Update.—On July 1, 1999, the Defense National Stockpile Center (DNSC) announced the aggregated June PGM sales results under the Basic Ordering Agreement, DLA-PGM-001.

Since June 1, 1999 DNSC has sold:

Iridium	49.130 kilograms (kg)
Palladium	4,566.286 kg
Platinum	2,345.983 kg

for an aggregated value of \$75.2 million.

The companies that were awarded material are: A-1 Specialized Services & Supply Inc., Crovdon, PA; Crystal Bay Trading, Pomona, NY; Degussa-Hüls Corp., Ridgefield Park, NJ; Gerald Metals Inc., Stamford, CT; Heraeus Precious Metals Management Inc., New York, NY; Johnson Matthey Inc., Wayne, PA; Mitsubishi International Corp., New York, NY; and Mitsui & Co. (USA), New York, NY.

Further information may be obtained by visiting the DNSC website www.dla.dnsc.mil. For other inquiries call Cheryl Deister at (703) 767-5475 (Defense National Stockpile Center, 1999).

References Cited

- American Metal Market, 1999, Benefits of gold sales dubious: American Metal Market, v. 107, no. 100, May 25, p. 7.
- Defense National Stockpile Center, 1999, News release: DNSC-99-1541, July 1, p. 1.
- Mining Journal, 1999, Wide mineralization at Zapote: Mining Journal v. 332, no. 8528, April 23, p. 292.
- Platt's Metals Week, 1999a, Clinton signs bill to reinstate Crown Jewel: Platt's Metals Week, v. 70, no. 20, May 17, p. 16.
- 1999b, Placer completes merger with Getchell: Platt's Metals Week, v. 70, no. 20, May 17, p. 16.
- 1999c, S African Q1 gold output down: Platt's Metals Week, v. 70, no. 21, May 24, p. 16.
- Silver News, 1999, London Metal Exchange to offer silver futures and options: Silver News, April/May, p. 3.

TABLE 1
MINE PRODUCTION OF RECOVERABLE GOLD AND SILVER IN THE UNITED STATES, BY STATE 1/

(Kilograms)

	Arizona	California	Montana	Nevada	Other States 2/	Total
Gold:						
1998: p/						
April	165	1,900	W	20,000	5,730	27,800
May	182	1,940	W	21,800	6,020	29,900
June	183	2,000	W	22,600	5,790	30,600
July	175	2,000	W	21,300	5,960	29,400 r/
August	181	1,800	W	21,900	6,180	30,000
September	181	1,850	W	22,500	5,730	30,300
October	189	1,850	W	21,900	5,960	29,900
November	182	1,840	W	21,400	5,800	29,200
December	179	1,830	W	22,500	6,100 r/	30,600
January-December	2,140	22,700	W	266,000	71,400	362,000
1999:						
January	192	1,690	W	18,700 r/	5,540 r/	26,100 r/
February	177	1,580	W	17,900 r/	5,310	25,000 r/
March	199 r/	1,790	W	18,400 r/	5,700	26,100 r/
April	190	1,820	W	18,600	5,740	26,300
January-April	758	6,880	W	73,600	16,500	104,000
	Arizona	California	Nevada	South Dakota	Other States 3/	Total
Silver:						
1998: p/						
April	17,200	1,470	59,500	W	84,700	163,000
May	15,400	1,470	55,900	W	84,200	157,000
June	14,400	W	70,600	W	89,500	174,000
July	17,900	W	50,300	W	85,300	153,000 r/
August	18,100	W	50,900	W	90,100	159,000
September	18,100	W	79,000	W	89,100	186,000
October	17,300	W	63,900	W	89,900	171,000
November	14,400	W	69,000	W	87,900	171,000
December	15,700	W	97,700	W	89,200 r/	203,000 r/
January-December	200,000	2,940	787,000	374	1,050,000	2,040,000
1999:						
January	15,500 r/	W	61,900 r/	W	114,000 r/	191,000 r/
February	14,800	W	59,100 r/	W	108,000 r/	182,000 r/
March	17,700 r/	W	77,000 r/	W	111,000 r/	206,000 r/
April	16,600	W	54,300	W	113,000	184,000
January-April	64,500	W	252,000	W	333,000	763,000

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other States."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes Alaska, Colorado, Idaho, New Mexico, South Carolina, South Dakota, Utah, Washington, Wisconsin, and States indicated by symbol "W."

3/ Includes Alaska, Colorado, Idaho, Missouri, Montana, New Mexico, New York, South Carolina, Utah, Washington, Wisconsin, and States indicated by symbol "W."

TABLE 2
SELECTED PRECIOUS METAL PRICES

(Dollars per troy ounce)

	Gold	Silver	Platinum	Palladium
Engelhard Industries:				
1998:				
Year				
Low/date	274.52 (August 28)	4.72 (August 31)	337.00 (October 30)	205.00
High/date	314.33 (April 24)	7.25 (February 6)	434.00 (April 14)	417.00
Average	295.24	5.54	374.61	289.76
1999:				
March:				
Low/date	280.58/31	5.00/16	360.00/30	350.00/10
High/date	295.15/11	5.53/1	379.00/8	375.00/26
Average	287.10	5.20	371.57	357.70
April:				
Low/date	279.62/6	4.91/14	347.00/29	315.00/30
High/date	287.74/30	5.38/30	366.00/20	388.00/20
Average	283.60	5.09	359.19	364.52
May:				
Low/date	269.71/28	4.91/28	351.00/4	293.00/4
High/date	289.09/6	5.47/13	367.00/28	349.00/14 & 18
Average	278.05	5.29	358.20	333.25
Year to date				
Low/date	269.71 (May 28)	4.91 (January 4 , April 14 & May 28)	344.00 (January 28)	293.00 (May 4)
High/date	295.15 (March 11)	5.70 (February 12)	386.00 (February 23)	388.00 (April 20)
Average	285.08	5.25	362.47	348.35
Handy and Harman:				
1998:				
Average	294.12	5.53	XX	XX
1999:				
March	285.96	5.20	XX	XX
April	282.45	5.09	XX	XX
May	276.94	5.30	XX	XX
Average year to date	283.94	5.25	XX	XX
London Final: 1/				
1998:				
Average	294.16	5.55	XX	XX
1999:				
March	285.96	5.19	XX	XX
April	282.62	5.07 r/	XX	XX
May	276.44	5.27	XX	XX
Average year to date	284.02	5.24	XX	XX

r/ Revised. XX Not applicable.

1/ Silver price reported as "London Spot/US Eq."

Source: Platt's Metals Week.

TABLE 3
U.S. IMPORTS AND EXPORTS OF GOLD 1/

(Kilograms of gold content, unless otherwise specified)

Period and country	Ores and concentrates 2/	Doré and precipitates	Refined bullion 3/	Ash and residues	Total 4/	Waste and scrap (gross weight)	Metal powder (gross weight)	Gold compounds (gross weight)
Imports for consumption:								
1998	2,560	14,100	257,000	4,670 r/	278,000	16,700	12,800	9,820
1999:								
January	70	2,380	19,800	11	22,300	1,530	797	1,360
February	2	1,830	13,800	1	15,600	1,250	478	801
March:								
Argentina	--	211	--	--	211	--	--	--
Austria	--	--	317	--	317	--	--	--
Belgium	--	--	--	--	--	311	--	--
Brazil	--	--	3,160	--	3,160	--	--	--
Canada	(5/)	--	9,680	--	9,680	631	397	--
Chile	--	267	425	40	732	--	--	--
China	--	--	--	--	--	237	--	--
Colombia	--	--	527	--	527	180	--	--
Dominican Republic	--	--	31	--	31	487	(5/)	--
Ecuador	--	97	123	--	221	30	--	--
Germany	--	--	--	--	--	(5/)	--	219
Mexico	--	574	213	(5/)	787	190	9	--
Nicaragua	--	--	281	(5/)	281	--	--	--
Peru	--	122	295	--	417	7	--	--
South Africa	--	--	3,760	--	3,760	15	--	--
Switzerland	--	--	315	--	315	--	3	--
Other	5	--	144	--	149	249	20	4
Total	5	1,270	19,300	40	20,600	2,340	429	223
Year to date	77	5,470	52,900	53	58,500	5,120	1,700	2,380
Exports:								
1998	401	91,600	430,000	--	522,000	58,900 r/	196	781,000
1999:								
January	31	6,750	11,400	--	18,200	1,500	7	20,200
February	26	6,840	13,200	--	20,000	2,550	11	121,000
March:								
Belgium	--	--	--	--	--	181	--	--
Canada	--	587	22	--	609	2,210	--	93,700
Germany	--	--	--	--	--	104	1	--
Italy	--	--	--	--	--	208	2	--
Korea, Republic of	--	--	2,430	--	2,430	--	--	--
Mexico	--	--	2,870	--	2,870	--	3	--
Netherlands	--	--	162	--	162	--	--	--
Peru	--	--	821	--	821	--	--	--
Sweden	--	--	--	--	--	242	--	--
Switzerland	--	4,570	--	--	4,570	--	--	--
United Kingdom	--	306	6,540	--	6,850	138	15	--
Other	--	2	93	--	95	16	6	241
Total	--	5,460	12,900	--	18,400	3,100	27	93,900
Year to date	58	19,100	37,500	--	56,600	7,150	45	235,000

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes gold content of base metal ores, concentrates, and matte imported for refining.

3/ Bullion also moves in both directions between U.S. markets and foreign stocks on deposit in the Federal Reserve Bank. Monetary gold excluded.

4/ "Waste and scrap," "Metal powder," and "Gold compounds" not included in "Total."

5/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 4
U.S. IMPORTS AND EXPORTS OF SILVER, REFINED AND AS NITRATE 1/

(Kilograms of silver content, unless otherwise specified)

Period and country	Bullion	Doré	Total	Other unwrought silver (gross weight)	Metal powder (gross weight)	Silver nitrate (gross weight)
Imports for consumption:						
1998	2,800,000	340,000	3,140,000	102,000	129,000	8,030
1999:						
January	262,000	19,500	282,000	847	15,800	826
February	268,000	39,100	308,000	18,000	10,500	15
March:						
Canada	139,000	--	139,000	4,130	5	784
Chile	1,500	34,400	35,900	--	--	--
Costa Rica	--	--	--	57	--	--
Germany	148	--	148	1 2/	--	--
Japan	--	--	--	--	1,180	--
Mexico	89,500	3,880	93,400	230	--	--
Nicaragua	--	53	53	--	--	--
Peru	30,000	--	30,000	--	--	--
Switzerland	1,040	--	1,040	--	30	--
Other	--	--	--	9	24	--
Total	261,000	38,300	299,000	4,430	1,240	784
Year to date	792,000	96,900	888,000	23,300	27,500	1,630
Exports:						
1998	2,250,000	241,000	2,490,000	39,900	299,000	164,000
1999:						
January	108,000	1,910	110,000	1,920	21,100	3,040
February	57,100	1,580	58,700	3,970	14,500	6,350
March:						
Canada	--	--	--	18,900	1,790	1,210
China	--	--	--	--	114	200
Dominican Republic	--	--	--	551	--	--
France	--	--	--	--	719	--
Germany	--	--	--	831	3,310	--
Hong Kong	--	--	--	44	1,010	53
India	10,400	1,990	12,400	--	--	--
Japan	--	--	--	10	5,460	77
Korea, Republic of	--	--	--	--	2,450	--
Mexico	169	3,560	3,730	--	457	2,520
Netherlands	--	--	--	31	808	--
Sweden	--	--	--	--	2,930	--
Switzerland	--	1,960	1,960	--	11	--
Taiwan	--	--	--	--	478	--
Thailand	--	--	--	285	--	--
United Kingdom	56,000	--	56,000	158	1,120	--
Uruguay	--	1,720	1,720	--	--	--
Other	--	--	--	23	--	29
Total	66,600	9,230	75,900	20,800	20,700	4,080
Year to date	232,000	12,700	244,000	26,700	56,300	13,500

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS AND EXPORTS OF SILVER, RAW, SEMIMANUFACTURED, AND WASTE AND SCRAP 1/

(Kilograms of silver content, unless otherwise specified)

Period and country	Silver ores and concentrates	Base metal ores and concentrates	Ash and residues	Total	Semimanufactured form 2/ 3/	Waste and scrap (gross weight)
Imports for consumption:						
1998	181,000	14,200	47,200	243,000	181,000	1,800,000
1999:						
January	10,400	--	2,730	13,200	6,490	134,000
February	1	--	3,810	3,810	10,200	168,000
March:						
Australia	--	--	147	147	--	10
Canada	--	--	634	634	10,300	36,200
Dominican Republic	--	--	--	--	--	134
Germany	--	--	--	--	536	19,300
Hong Kong	--	--	--	--	152	--
Japan	--	--	46,000 4/	46,000	--	--
Korea, Republic of	--	--	--	--	--	174
Malaysia	--	--	--	--	--	5,550
Peru	--	--	--	--	--	10,400
Philippines	--	--	--	--	--	230
United Kingdom	--	--	4,980	4,980	1,000	21,600
Other	--	--	15	15	161	28
Total	--	--	51,800	51,800	12,100	93,600
Year to date	10,400	--	58,300	68,700	28,800	396,000
Exports:						
1998	6,540	--	--	6,540	154,000	1,060,000
1999:						
January	20,200	--	--	20,200	10,800	144,000
February	383	--	--	383	9,850	122,000
March:						
Belgium	--	--	--	--	335	27,300
Brazil	--	--	--	--	662	--
Canada	12,300	--	--	12,300	3,710	60,800
China	--	--	--	--	623	17,700
France	--	--	--	--	245	--
Germany	--	--	--	--	125	29,400
Hong Kong	--	--	--	--	--	866
India	2,200	--	--	2,200	8	--
Italy	--	--	--	--	485	771
Japan	--	--	--	--	283	5
Korea, Republic of	275	--	--	275	139	43
Mexico	--	--	--	--	342	3
Netherlands	--	--	--	--	192	--
New Zealand	--	--	--	--	168	--
Singapore	--	--	--	--	127	--
Spain	--	--	--	--	556	--
Sweden	--	--	--	--	1	2,210
Taiwan	--	--	--	--	1,130	76
United Kingdom	--	--	--	--	860	--
Other	--	--	--	--	165	--
Total	14,700	--	--	14,700	10,100	139,000
Year to date	35,300	--	--	35,300	30,800	406,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Containing 99.5% or more by weight of silver. Imports only.

3/ Semimanufactured (including silver plated with gold or platinum) forms of silver. Gross weight.

4/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 6
U.S. IMPORTS OF PLATINUM-GROUP METALS 1/

(Kilograms of metal content, unless otherwise specified)

Period and country	Platinum grain and nuggets	Platinum sponge	Other unwrought platinum	Platinum, other	Platinum waste and scrap	Platinum coins	Unwrought palladium	Palladium, other	Iridium 2/	Unwrought osmium	Unwrought ruthenium	Rhodium 3/
Imports for consumption:												
1998	2,670	72,700	10,200	11,200	3,580 r/	451 r/	160,000	16,300	1,950	71	8,880 r/	13,400
1999:												
January	97	5,540	1,790	521	102 r/	5	14,600	1,070	115	--	799	751
February	277	4,000	185	1,110	1,620 4/	1	27,200	817	200	--	491	424
March:												
Australia	--	--	--	311	--	5	--	--	--	--	--	--
Belgium	15	364	--	--	--	--	826	--	--	--	--	11
Canada	(5/)	--	3	14	17	--	393	11	--	--	--	--
Germany	350	207	98	185	18	--	433	245	30	--	93	18
Ireland	90	--	--	1	--	--	--	--	--	--	--	--
Japan	11	39	--	4	--	--	626	50 4/	--	--	--	1
Russia	--	--	19	3,960	--	--	10,900	767	--	--	--	2,260
South Africa	--	2,200	--	--	--	--	2,050	133	23	--	347	398
Switzerland	--	--	509	117	--	--	1,550 4/	283	--	--	--	--
United Kingdom	88	789	(5/)	76	--	--	583	5 4/	37 4/	--	30	38
Other	21	84	49	79	36	--	69	14	(5/) 4/	--	--	8
Total	575	3,680	678	4,750	71	5	17,400	1,510	91	--	470	2,740
Year to date	950	13,200	2,660	6,380	1,790	12	59,200	3,400	405	--	1,760	3,910

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Unwrought and other forms of iridium.

3/ Unwrought and other forms of rhodium.

4/ All or part of these data have been referred to the Bureau of the Census for verification.

5/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 7
U.S. EXPORTS OF PLATINUM GROUP METALS, BY COUNTRY 1/

(Kilograms metal content, unless otherwise specified)

Country	Palladium 2/	Platinum 2/ 3/	Platinum waste and scrap	Iridium osmium and ruthenium 2/ 3/	Rhodium 2/
Exports:					
1998	36,800	14,300	6,570	905	811
1999:					
January	2,860	3,380	210	30	(4/)
February	3,530	649	716	124	1
March:					
Canada	157	49	24	--	--
China	200	--	--	--	--
Germany	343	80	33	--	--
Hong Kong	36	229	--	--	(4/)
Israel	219	--	--	(4/)	--
Italy	52	9	6	--	--
Japan	433	218	27	22	--
Korea, Republic of	74	108	--	--	3
Netherlands	132	16	--	--	--
South Africa	292	--	1	--	--
Switzerland	816	2	--	--	--
Taiwan	1,080	1	--	--	--
United Kingdom	65	50	181	49	(4/)
Other	128	118	32	--	--
Total	4,020	880	304	71	3
Year to date	10,400	4,910	1,230	226	4

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Unwrought and other forms.

3/ Gross weight.

4/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 8
LEADING GOLD-PRODUCING MINES IN THE UNITED STATES IN 1998

(Kilograms of gold)

Rank	Mine	County and State	Operator	Gold produced
1	Carlin Mines Complex	Eureka, Elko, etc., NV	Newmont Gold Co.	82,070
2	Betze-Post/ Goldstrike	Eureka, NV	Barrick Gold Corp.	46,614
3	Cortez	Lander, NV	Placer Dome (U.S.) Inc.	35,418
4	Meikle/ Goldstrike	Eureka, NV	Barrick Gold Corp.	26,354
5	Round Mountain	Nye, NV	Round Mountain Gold Corp.	15,878
6	Bingham Canyon	Salt Lake, UT	Kennecott-Utah Copper Corp.	11,384
7	Fort Knox	Fairbanks, AK	Fairbanks Gold Mining Inc.	11,367
8	Jerritt Canyon	Elko, NV	Independence Mining Co.	10,656
9	Homestake	Lawrence, SD	Homestake Mining Corp.	8,628
10	Cresson	Teller, CO	Cripple Creek & Victor Gold Mining Co.	7,165
11	Bullfrog	Nye, NV	Barrick Gold Corp.	6,473
12	McCoy/ Cove	Lander, NV	Echo Bay Mines Ltd.	5,210
13	Getchell	Humboldt, NV	FirstMiss Gold Inc.	4,964
14	Golden Sunlight	Jefferson, MT	Placer Dome (U.S.) Inc.	4,929
15	Mesquite	Imperial, CA	Newmont Gold Co.	4,793
16	Florida Canyon	Lander, NV	Pegasus Gold Inc.	4,756 1/
17	Rosebud	Pershing, NV	The Rosebud Mining Co.	4,074
18	Bald Mountain	White Pine, NV	Placer Dome (U.S.) Inc.	4,045
19	McLaughlin	Napa, CA	Homestake Mining Corp.	4,002
20	Denton-Rawhide	Mineral, NV	Kennecott Ridgeway Mining Co.	3,888
21	Ruby Hill	Eureka, NV	Homestake Mining Corp.	3,624
22	Kettle River	Ferry, WA	Echo Bay Mines Ltd.	3,536
23	Hycroft	Humbolt, NV	Vista Gold Corp.	3,505
24	Beartrack	Lemhi, ID	Meridian Gold Corp.	3,430
25	Wharf	Lawrence, SD	Goldcorp Inc.	3,427
26	Ridgeway	Fairfield, SC	Kennecott Ridgeway Mining Co.	3,079
27	Castle Mountain	San Bernardino, CA	Viceroy Gold Co.	2,772
28	Rochester	Pershing, NV	Coeur Rochester Inc.	2,756
29	Rand	Kern, CA	Glamis Rand Mining Co.	2,706
30	Barney's Canyon	Salt Lake, UT	Kennecott Barney's Canyon Mining Co.	2,582

1/ Production for the fourth quarter, incorporated in the estimated annual figure, is the average of the prior three quarters' production.

Sources: Company annual reports, Securities and Exchange Commission's 10K and 6K reports, and company new releases.